

Species Status Assessment

Common Name: Lyre-tipped spreadwing

Date Updated: April 2025

Scientific Name: *Lestes unguiculatus*

Minor Edits By: NYSDEC Wildlife Section

Class: Insecta

Family: Lestidae

Species Synopsis (a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):

L. unguiculatus is currently documented in 10 extant locations in four NY counties: Chenango, Jefferson, Saratoga, and St. Lawrence. There is a probable record from Tompkins County. This species was historically known from 26 NY counties throughout the state and its range has apparently retracted. In New York, *L. unguiculatus* is known from lentic habitats including vernal pools, ponds, and marshy habitats (White et al. 2010). This species is often found in habitats that dry completely in mid-summer (Lam 2004, Paulson 2011, NatureServe 2013).

DEC is not aware of any additional data or new information on population trends or threats to this species since the last SWAP revision in 2015 to indicate a need for change in SGCN status

I. Status

a. Current legal protected Status

i. **Federal:** Not listed **Candidate:** No

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S2S3 **Tracked by NYNHP?:** Yes

Other Ranks:

-NYS 2025 SGCN Status: SGCN

-IUCN Red List: Least Concern

-Northeast Regional SGCN: Watchlist

Status Discussion:

L. unguiculatus is currently documented in 10 locations in four NY counties: Chenango, Jefferson, Saratoga, and St. Lawrence. There is a probable record from Tompkins County. This species was historically known from 26 counties throughout the state and its range has apparently retracted.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Unknown	Unknown			-
Northeastern US	Yes	Unknown	Declining	pre-post-2000; relative change in range is -1.33, suggesting declining trend region-wide.		Watchlist
New York	Yes	Unknown	Declining	NYDDS data (4 counties) compared to pre-2005 county records (26)		Yes
Connecticut	Yes	Unknown	Declining			No
Massachusetts	Yes	Unknown	Unknown			Yes
New Jersey	Yes	Unknown	Declining			Yes
Pennsylvania	Yes	Unknown	Unknown			No
Vermont	Yes	Stable	Stable	Pre and post 1970 data		No
Ontario	Yes	Unknown	Unknown			-
Quebec	Yes	Unknown	Unknown			-

Column options

Present?: Yes; No; Unknown; No data; (blank) or Choose an Item

Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item

SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York (specify any monitoring activities or regular surveys that are conducted in New York):

The New York State Dragonfly and Damselfly Survey was conducted from 2005-2009, but there are no organized, regular monitoring or survey activities directed toward this species or to sites where it has been documented.

Trends Discussion (insert map of North American/regional distribution and status):

L. unguiculatus is currently documented in 10 extant locations in four NY counties: Chenango, Jefferson, Saratoga, and St. Lawrence. There is a probable record from Tompkins county. This species was historically known from 26 NY counties throughout the state and its range has apparently retracted (Donnelly 1999, White *et al.* 2010).

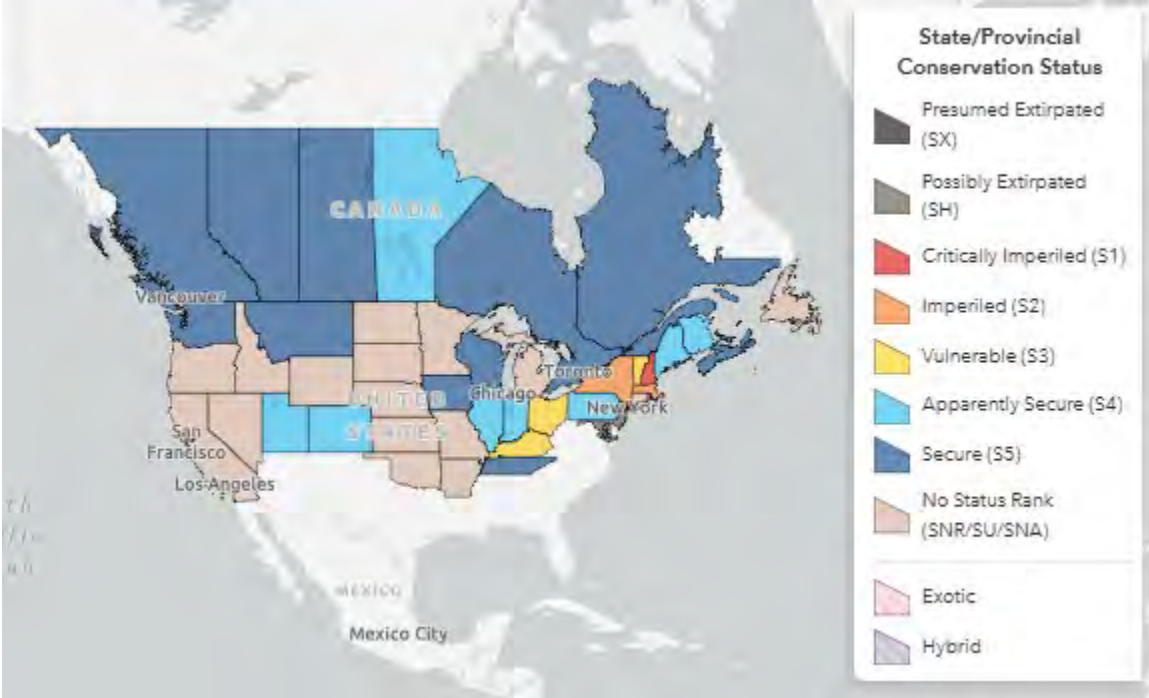


Figure 1. Conservation Status of *Lestes unguiculatus* in North America (NatureServe 2025).

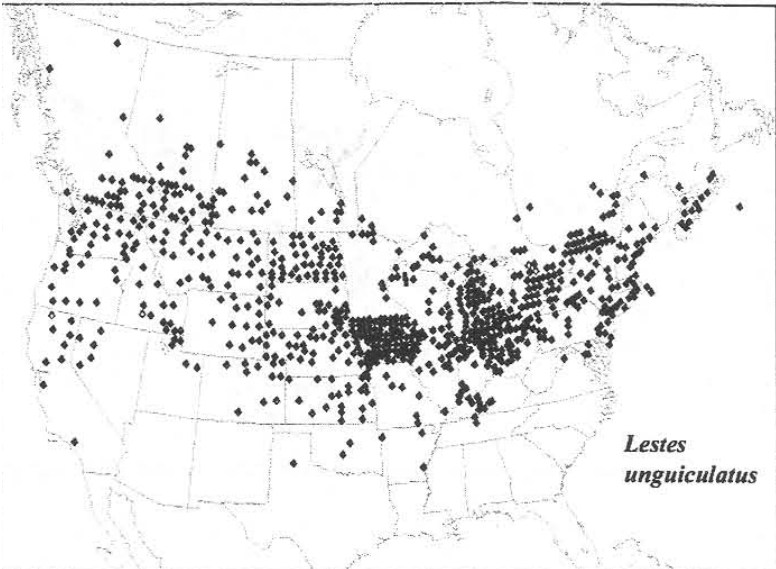


Figure 2. Distribution of *Lestes unguiculatus* in North America (Donnelly 2004).

III. New York Rarity (provide map, numbers, and percent of state occupied)

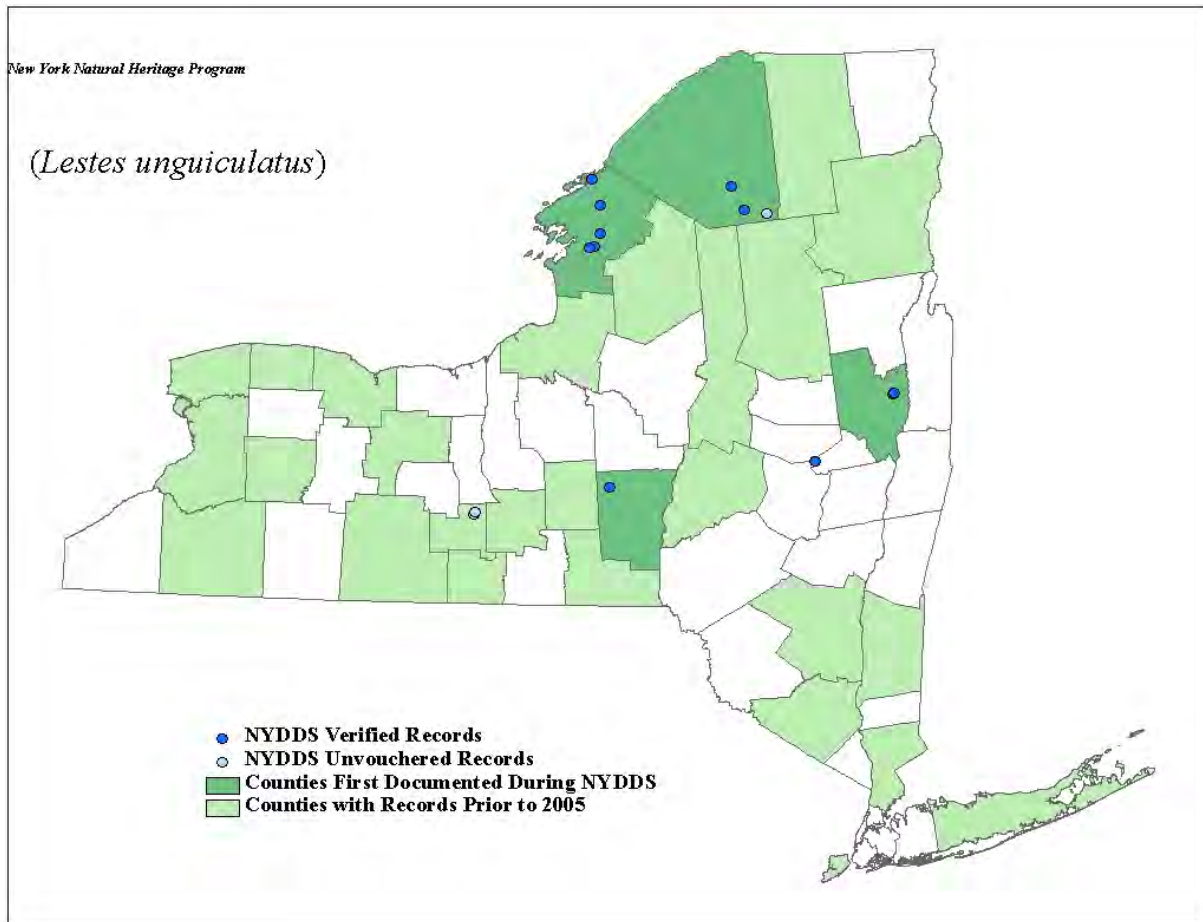


Figure 3. Occurrences of *Lestes unguiculatus* in New York (White et al. 2010).

Details of historic and current occurrence:

Previously known from 26 counties prior to 2005 at the start of the NYDDS.

L. unguiculatus is currently documented in 10 extant locations in four NY counties: Chenango, Jefferson, Saratoga, and St. Lawrence. There is a probable record from Tompkins county.

New York's Contribution to Species North American Range:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Peripheral	

Column options

Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item
 Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type (from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):

- a. Fishless Ponds such as vernal pools
- b. Lake and Pond Shorelines

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/Community Trend	Time frame of Decline/Increase
No	No	Unknown	

Column options

Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item

Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

In New York, *L. unguiculatus* is known from lentic habitats including vernal pools, ponds, and marshy habitats (White et al. 2010). This species is often found in habitats that dry completely in mid-summer (Lam 2004, Paulson 2011, NatureServe 2013).

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/Catadromous?
Yes	-	-	Yes	Yes	-

Column options

First 5 fields: Yes; No; Unknown; (blank) or Choose an item

Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion (include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):

Damselflies undergo incomplete metamorphosis and live as aquatic larvae in streams and rivers before emerging into a terrestrial adult life stage. Adults live for a single warm season (few months), while larvae may live for a year or longer, depending on the species and environmental conditions. They have the ability to disperse as larvae through connected waterways if conditions are suitable and adults have the ability to disperse to new suitable habitats by flight. Paulson (2011) indicates copulation is ~25 min., with the female ovipositing usually in tandem over the subsequent hour and a half. Immatures use grassy meadows adjacent to breeding habitats (Paulson 2011).

Flight season in NY is July through September, peaking in July (Donnelly 1999, White et al. 2010) and is also from June through September in NJ and ME (Paulson 2011),

VI. Threats (from NY 2015 SWAP or newly described):

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss from lakeside development)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.2 Dams & Water Management/Use	(alteration of natural hydrology)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	8.1.4 Aquatic plants (phragmites)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
9. Pollution	9.1 Domestic & Urban Wastewater	9.1.1 Domestic wastewater (lawn care)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.3 Changes in Temperature Regimes	(temperature extremes)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
11. Climate Change	11.4 Changes in Precipitation & Hydrological Regimes	11.4.2 Droughts	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to *Lestes unguiculatus*

Any activity which might lead to water contamination or the alteration of natural hydrology could impact Lyre-tipped Spreadwing populations (NYSDEC 2005). Such threats might include roadway and agricultural run-off, ditching and filling, eutrophication and nutrient loading from fertilizers, herbicides, and septic systems, changes in dissolved oxygen content, and development (NYSDEC 2005). In addition, both emergence rates and/or species ranges may shift for odonate species as a result of climate change (Kalkman *et al.* 2008) and this species is known to decline with increased drought (Paulson 2011).

Are there regulatory mechanisms that protect the species or its habitat in New York?

Yes: ✓

No:

Unknown:

If yes, describe mechanism and whether adequate to protect species/habitat:

Article 15 of Environmental Conservation Law provides some protection of rivers, streams, lakes and ponds through the Protection of Waters Program.

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

Any efforts to reduce roadway and agricultural run-off, eutrophication, development of upland borders to ponds and resulting increased groundwater withdrawal, invasive plant and animal species, trampling of vegetation from recreation, and ditching and filling activities should be considered when managing for this species (NYS DEC 2006, White *et al.* 2010). Maintenance or restoration of native shoreline vegetation and surrounding upland habitat should benefit this species, as females in this genus require native emergent vegetation for successful reproduction and spend much of their time in upland habitats away from the breeding pond (Gibbons *et al.* 2002, White *et al.* 2010).

Further inventory is needed to define the extent of populations of Lyre-tipped Spreadwings in New York, and additional survey work in ponds, vernal pools, and marshes. In addition, research is required to understand the habitat requirements of this species, and to create appropriate management guidelines for its persistence in known locations (NYS DEC 2006).

Action Category	Action	Description
C.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	
C.7 Legislative and Regulatory Framework or Tools	C.7.2.1.0 Create or amend policies	

Table 2. Recommended conservation actions for *Lestes unguiculatus*.

VII. References

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